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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,872	03/30/2004	Steven D. Cheng	ACMP0185USA	2871

27765 7590 08/25/2005

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION  
P.O. BOX 506  
MERRIFIELD, VA 22116

EXAMINER
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MEHRPOUR, NAGHMEH

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/708,872

Applicant(s)

CHENG, STEVEN D.

Examiner

Naghmeh Mehrpour

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-17**, are rejected under 35 U.S.C. 102(e) as being anticipated by Shioda et al. (US publication 2002/0183071).

Regarding claims 1, 10, Shioda teaches a method of using power measurements from base stations to calculate position of a mobile station, the method comprising; providing position coordinates for a plurality of base stations in a mobile phone network (0052), measuring Received Signal Strength levels of nearby base stations with a identifying three base stations that efficient above a predetermined threshold level for which Indicator (RSSI) level mobile station (0053, 0079-0082); identifying three base stations that have a reliability coefficient above a predetermined threshold level foe which the mobile station measures wherein the mobile station strongest RSSI levels, wherein each base station has the corresponding reliable interference effects associated with base station (0082-0083);

the mobile station receiving the position coordinates of the three identified base stations,  
calculating a curved path of possible positions of the mobile station for each of the three identified base stations according to the measured RSSI the three identified base stations; and levels of each of calculating the position of the mobile station based on the position coordinates of the three identified base stations and the three curved paths of possible positions of the mobile station (0079).

Regarding claims 2, 11, Shioda teaches a method of claim 1 wherein calculating the curved path of possible positions of the mobile station for each of the three identified base stations is performed according to the relationship  $RSSI \propto \frac{1}{d^2}$  wherein RSSI stands for received signal strength indicator, and the  $d$  for a measured RSSI value for an  $i$  stands for a distance between the mobile station and the  $i$  base station (0084).

Regarding claims 3, 12, Shioda teaches a method of claim 1 wherein when calculating the curved path of possible positions of the mobile station for each of the three identified base stations, a known interference coefficient for each base station is utilized to calculate an inner curve and an outer curve corresponding to that base station, the inner curve and the outer curve defining an individual area that the mobile station is predicted to be in (0053).

Regarding claims 4, 13, Shioda fails to teach a method of claim 3 wherein a merged area that the mobile station is predicted to be in on a union of the individual areas identified base stations, the merged area comprising possible calculated based from each of the three positions in which all of the individual areas overlap. However, Shioda teaches a method of claim 3 wherein a merged area that the mobile station is predicted to be in on a union of the individual areas identified base stations, the merged area comprising possible calculated based from each of the three positions in which all of the individual areas overlap (0053). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Shioda with Shioda, in order to provide current position of mobile using propagation curves with respect to the base station

Regarding claims 5, 14, Shioda teaches a method of claim 3 wherein the known interference coefficients for each of the three identified base stations comprise a mean interference value and a corresponding standard deviation value that are used to calculate the inner curve and the outer curve corresponding to the same base station (0229).

Regarding claim 6, Shioda teaches a method of claim 1 wherein each base station has a corresponding reliability coefficient due to interference effects associated with that base station, and when identifying the three base stations for which the mobile station levels, base stations measures the strongest RSSI which have a reliability coefficient

below a predetermined threshold level are not selected to be one of the three base stations that the mobile station identifies as having the strongest RSSI levels (0081-0083, 0091).

Regarding claims 7, 15, Shioda teaches a method of claim 1 wherein the mobile station receiving the position coordinates of the three identified base stations is realized by the three identified base stations transmitting their respective position coordinates to the mobile station (0125).

Regarding claims 8, 16, Shioda teaches a method of claim 1 wherein the mobile station receiving the position coordinates of the three identified base stations is realized by the mobile station reading the positions coordinates of the three identified base stations from a lookup table (0115, 0121-126, 0134).

Regarding claims 9, 17, Shioda teaches a method of claim 1 wherein when the mobile station is less than a predetermined distance away from a nearby base station in the mobile position of the mobile station is phone network, the set to be equal to the position of the nearby base station (0127-0131).

### **Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Tang** (US Patent 6,799,046) disclose method and system for locating a mobile telephone within a mobile network

**Munday et al.** (US Patent 6,201,803) disclose cellular radio location system

**Chen et al.** (US Patent 6,748,224 B1) disclose local positioning system

**Tsunchara et al.** (US Publication 2003/0125026 A1) disclose radio terminal

**Green et al.** (US patent 6,697,628 B1) disclose apparatus and associated method, for determining geographical positioning

**4. Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

August 18, 2005



MELODY M. POUR  
PATENT EXAMINER